

AMENDMENTS TO THE CLAIMS

1-175. (Canceled)

176. (New) A self-propelled tool for moving within a passage, comprising:

a body configured to convey a working fluid for powering movement of the tool;

a gripper movably engaged with said body, said gripper including at least one gripper portion having a first position in which said gripper portion limits movement of said gripper portion relative to an inner surface of said passage and a second position in which said gripper portion permits substantially free relative movement between said gripper portion and said inner surface;

a thrust-receiving member longitudinally fixed with respect to said body and longitudinally movable with respect to said gripper portion of said gripper, said body being longitudinally movable within said passage when the working fluid is directed to apply a thrust onto said thrust-receiving member with said gripper portion in said first position;

a control pack comprising a valve having one position in which said valve permits the working fluid to flow through said valve to a first side of said thrust-receiving member to impart said thrust, and another position in which said valve prevents the working fluid from flowing to said first side of said thrust-receiving member, the position of said valve being controlled by fluid pressure forces acting on said valve;

wherein said control pack is configured to prevent said thrust on said thrust-receiving member from exceeding a set threshold value regardless of a pressure of the working fluid flowing through the valve, by internally continuously controlling fluid flow within the tool.

177. (New) The tool of Claim 176, wherein said thrust-receiving member comprises a first piston having a head reciprocally mounted within a first barrel so as to define a first chamber on a first side of said head and a second chamber on a second side of said head.

178. (New) The tool of Claim 176, wherein said gripper portion of said gripper comprises an engagement bladder.

179. (New) The tool of Claim 176, further comprising a bottom hole assembly secured to said body of said tool.

180. (New) The tool of Claim 179, wherein said bottom hole assembly comprises a drill bit.

181. (New) The tool of Claim 176, wherein said control pack limits pressure within the tool.

182. (New) The tool of Claim 176, further comprising completion equipment secured to said body of said tool.

183. (New) The tool of Claim 176, further comprising sensor equipment secured to said body of said tool.

184. (New) The tool of Claim 176, further comprising logging sensor equipment secured to said body of said tool.

185. (New) The tool of Claim 176, further comprising a retrieval assembly secured to said body of said tool.

186. (New) The tool of Claim 176, further comprising pipeline servicing equipment secured to said body of said tool.

187. (New) The tool of Claim 176, further comprising communications line equipment secured to said body of said tool.

188. (New) The tool of Claim 176, further comprising tools for sand washing secured to said body of said tool.

189. (New) The tool of Claim 176, wherein said body is one of a plurality of bodies, said bodies being connected in series.

190. (New) The tool of Claim 176, wherein said control pack comprises a plurality of valves.

191. (New) The tool of Claim 190, wherein one or more of said valves comprises a spool valve whose position is responsive to pressure differentials between different positions within said tool.

192. (New) A method of propelling a tool having a body within a passage, comprising:
conveying a fluid for powering movement of the tool;
causing a first gripper portion of a gripper to assume a first position in which said first gripper portion engages an inner surface of said passage and limits movement of said first gripper portion relative to said inner surface;

causing said first gripper portion to assume a second position in which said first gripper portion permits substantially free relative movement between said first gripper portion and said inner surface;

causing a second gripper portion of said gripper to assume a first position in which said second gripper portion engages said inner surface of said passage and limits movement of said second gripper portion relative to said inner surface;

causing said second gripper portion to assume a second position in which said second gripper portion permits substantially free relative movement between said second gripper portion and said inner surface;

directing the fluid through a valve having a first position in which said valve permits the fluid flowing through said valve to flow to a first side of a thrust-receiving member longitudinally fixed with respect to said body, and a second position in which said valve prevents the fluid from flowing to said first side of said thrust-receiving member;

toggling said valve between its first and second positions by varying fluid pressure forces acting on said valve, to apply periodic thrust to said thrust-receiving member with respect to at least one of said gripper portions of said gripper in said first position; and

preventing said thrust applied to said thrust-receiving member from exceeding a threshold value regardless of the pressure of the fluid flowing through said valve, by internally continuously self-regulating fluid flow within the tool.

193. (New) The method of Claim 192, further comprising alternately moving said body with respect to said first gripper portion when said first gripper portion is in said first position and moving said body with respect to said second gripper portion when said second gripper portion is in said first position so that said tool is continuously moveable with respect to said inner surface of said passage.

194. (New) The method of Claim 192, further comprising forcing said fluid into said passage to selectively move said body with respect to said first gripper portion in said first position and said second gripper portion in said second position.

195. (New) The method of Claim 192, wherein said fluid is ambient fluid.

196. (New) The method of Claim 192, wherein said fluid is drilling mud.

197. (New) The method of Claim 192, wherein said fluid is hydraulic fluid.

198. (New) The method of Claim 192, wherein said first gripper portion comprises a first engagement bladder and said second gripper portion comprises a second engagement bladder.

199. (New) The method of Claim 198, wherein said first engagement bladder is selectively filled with a second fluid to engage said inner surface of said passage.

200. (New) The method of Claim 192, further comprising:

configuring said thrust-receiving member to comprise a piston having a head reciprocally mounted within a barrel so as to define a first chamber on a first side of said head and a second chamber on a second side of said head; and
reciprocating said head within said barrel.

201. (New) The method of Claim 200, further comprising forcing said fluid within said first chamber of said barrel to move said head within said barrel.

202. (New) The method of Claim 201, further comprising alternately forcing fluid into said first chamber and said second chamber to cause head to reciprocate within said barrel.

203. (New) The method of Claim 192, further comprising causing a drill bit secured to said body to continuously penetrate a formation as said tool continuously moves.

204. (New) The method of Claim 192, further comprising securing well completion equipment to said body so that said tool moves said equipment within said passage.

205. (New) The method of Claim 192, further comprising securing sensor equipment to said body so that said tool moves said equipment within said passage.

206. (New) The method of Claim 192, further comprising securing logging sensor equipment to said body so that said tool moves said equipment within said passage.

207. (New) The method of Claim 192, further comprising securing a retrieval assembly to said body so that said tool moves said retrieval assembly within said passage.

208. (New) The method of Claim 192, further comprising securing pipeline service equipment to said body so that said tool moves said equipment within said passage.

209. (New) The method of Claim 192, further comprising securing communications line equipment to said body so that said tool moves said equipment within said passage.

210. (New) The method of Claim 192, further comprising securing equipment for sand washing to said body so that said tool moves said equipment within said passage.

Appl. No. : **10/768,434**
Filed : **January 30, 2004**

211. (New) The method of Claim 192, wherein said body is one of a plurality of bodies, said bodies being connected in series.